

## PRODUCT NAME

# Cem-Kote™ Flex CR

## Flexible, Hydrogen Sulfide Resistant Cementitious Waterproofing

## MANUFACTURER

Gemite® Products Inc.

Toll Free: 888-4-GEMITE (888-443-6483)

E-mail: [techinfo@gemite.com](mailto:techinfo@gemite.com)

Web Site: [www.gemite.com](http://www.gemite.com)

### USA

160-3480 East Robinson Rd.

Amherst, New York 14228

Phone 888-443-6483

Fax 888-443-6329

### CANADA

1787 Drew Road

Mississauga, Ontario L5S 1J5

Phone 905-672-2020

Fax 905-672-6780

## FEATURES

- Excellent resistance to sulfuric acid generated from hydrogen sulfide
- Flexible
- Good chemical resistance
- Long term crack resistance
- Superior freeze/thaw resistance
- Excellent bond to clean substrate
- Self-curing
- Breathable
- Very low shrinkage
- Vermin proof
- Non-toxic
- Easy application

## PRODUCT DESCRIPTION

### Basic Use

*Cem-Kote Flex CR* is primarily designed for waterproofing and protection of concrete structures exposed to sulfuric acid, generated by micro-biological oxidation of hydrogen sulfide. This includes concrete structures in waste water treatment facilities, such as digesters, sludge tanks, clarifiers, manholes and sewer systems. It is also used in waterproofing and restoration of concrete structures in thin sections, where a superior flexibility, chemical resistance and breathability are required. It protects and waterproofs structures subjected to various chemicals, such as concrete floors, tanks and secondary containment structures. It also acts as an excellent protection of concrete against carbonation.

### Compositions and Materials

*Cem-Kote Flex CR* is a highly flexible, fibre-reinforced, hydraulic cement based material. It is a two component system consisting of dry Component A and liquid Component B. For additional tensile strength, it may be reinforced with *Reinforcing Fabric HD*.

### Limitations

Do not apply *Cem-Kote Flex CR* when the temperature is expected to be below 4°C (40°F) within 48 hours or when rain is

imminent. Follow Hot Weather concreting procedures when applying *Cem-Kote Flex CR* at temperatures exceeding 25°C (77°F). Not designed for heavy traffic areas.

### Health and Safety

*Cem-Kote Flex CR* is non-toxic. Your skin might be sensitive to hydraulic cement or the liquid additive. We recommend use of rubber gloves. Avoid contact with eyes and prolonged contact with skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if digested. Keep product out of reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

### Color

Dark Grey.

### Packaging

*Cem-Kote Flex CR*, dry Component A is packaged in 16 kg (35.3 lbs) bags and liquid Component B is packaged in 4.9 L (1.3 USG) plastic jugs.

### Yield

*Cem-Kote Flex CR* yields 10.4 L (0.37 ft<sup>3</sup>) and covers approximately 6.5 m<sup>2</sup> @ 1.6 mm (73.6 ft<sup>2</sup> @ 60 mils) thickness per kit applied in two (2) coats. The actual coverage will depend on surface roughness and the thickness applied. The applicator must carry out a sample application to determine the actual coverage for the given substrate and application thickness.

### Storage and Transportation

When stored in a dry area, the material has a shelf life of 12 months. The Component B liquid must not freeze. Packaged 40 kits per pallet.

## TECHNICAL DATA

Tensile Elongation	20-25 %
Salt Scaling Resistance ASTM 672	excellent
Chemical resistance	available on request

*Cem-Kote Flex CR* exhibits a high resistance to majority of mineral acids in moderate concentrations for shorter periods of time. It is highly resistant to concentrated salt solutions and caustic environments.

## INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed. Consult Gemite's Technical Service to ensure correct surface preparation, application procedures and chemical compatibility for your application.

### Surface Preparation

Remove all deteriorated and loose concrete, form release agents, oil, grease, laitance, dust, dirt and efflorescence by dry or wet

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109820 Flexible Cementitious Coating  
107145 Cementitious Waterproofing

sandblast, shotblast, or high pressure water (min. 6,000 psi). Repair deeper areas using *Gem-Plast TC* or *Fibre-Patch OV*. The proper surface preparation is essential for a successful waterproofing using *Cem-Kote Flex CR*.

### Reinforcing Steel

Remove all loose rust from any exposed reinforcing steel and apply two coats of *Fibre-Prime* rustproofing.

### Crack Treatment

All cracks must be treated using *Cem-Kote Flex CR* and *Reinforcing Fabric NW*. Pre-fill any cracks larger than 2 mm (80 mils) with *Cem-Kote Flex CR*. Apply a thin coat of *Cem-Kote Flex CR*, 15-25 cm (6-10 in) wide, over the crack. Embed a strip of the *Reinforcing Fabric NW* into the wet *Cem-Kote Flex CR* and apply a 2<sup>nd</sup> coat to fully cover the *Reinforcing Fabric NW*. Note: in some applications the *Reinforcing Fabric HD* may be used throughout the entire *Cem-Kote Flex CR* layer. Please contact Gemite Technical Service for further information.

### Mixing

Thoroughly mix liquid Component B prior to its use. Use clean paddle, helix mortar mixer, or heavy duty drill (400-600 RPM) with a mixing paddle. Pour approximately 80% of the Component B into the mixer and gradually add the dry material into the liquid and mix until a smooth and lump free mix is obtained. Add the remaining liquid as required for a given application consistency. A small amount of water can be added, if required, at higher ambient temperatures.

### Application

Apply *Cem-Kote Flex CR* to a saturated surface dry or saturated surface damp surface. Trowel or brush apply two coats to build a 1.6 - 3 mm (60 - 120 mils) thick layer of *Cem-Kote Flex CR*. It can be also spray applied using a hopper gun, or positive displacement (moyno or carousel) pump with a suitable plastering spray nozzle.

The second coat must be applied into a wet first coat, usually within 10-15 minutes, depending on temperature and relative humidity. The delayed application of the second coat could result in its de-bonding.

### Reinforcing Fabric

When using the *Reinforcing Fabric HD* throughout the entire area, apply first a thin layer of *Cem-Kote Flex CR* by brushing or spraying. When spraying, brush each coat to eliminate all "pinholes". Embed the *Reinforcing Fabric HD* into the first coat and follow with the second coat. The *Reinforcing Fabric HD* must be fully covered. The total applied thickness of *Cem-Kote Flex CR*, including the *Reinforcing Fabric HD*, must be 2 mm (80 mils).

In some new construction projects where the *Reinforcing Fabric HD* is considered to be used throughout, the fabric may be replaced with 1 mm thick coat of *Cem-Kote Flex Plus*. In such cases only one coat of *Cem-Kote Flex CR*, 1.0 mm thick, is needed on top of *Cem-Kote Flex Plus* layer. Please contact Gemite Technical Service for further information.

### Curing

Cure *Cem-Kote Flex CR* by air drying for a minimum of 3 days prior to continuous exposure to water. Protect fresh applications from rain, strong wind and intense sunlight for 12 hours. When working under tarps at freezing temperatures, use electrical heaters to prevent "carbonation" of the material.

### Clean Up

All tools must be cleaned with water immediately after use. Cured material can only be removed mechanically.

### AVAILABILITY AND COST

*Cem-Kote Flex CR* is available worldwide. Contact Gemite Products Inc. for the name of the Representative/Distributor nearest you and pricing information.

### MAINTENANCE

Some maintenance may be required depending upon the type of chemical environment and the length of exposure.

### WARRANTY

A limited twelve (12) month Material Replacement Warranty is available. For complete details contact Gemite's Head Office.

### TECHNICAL SERVICE

For technical advice on the suitability of *Cem-Kote Flex CR* for a specific application, specification assistance and application advice, contact Gemite Technical Service: USA 888-443-6483, Canada 905-672-2020.

### Short Specification

The surfacing/protective/waterproofing layer will be *Cem-Kote Flex CR*, elastomeric, fiber reinforced and polymer modified cement, manufactured by Gemite Products Inc. [USA 888-443-6483] [Canada 905-672-2020]. It will be mixed and applied according to manufacturer's specifications and recommendations. The suitability of *Cem-Kote Flex CR* for specific use, the surface preparation method, detailing and application procedures must be checked with Gemite Technical Service prior to bid.